

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P590223

Luminaire Tested: FSR-24-2-LD4-2HI-50-UNV-93-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590223
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2HI-50-UNV-93-86-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4774.0 lumens
Efficiency: N/A
Efficacy: 110.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

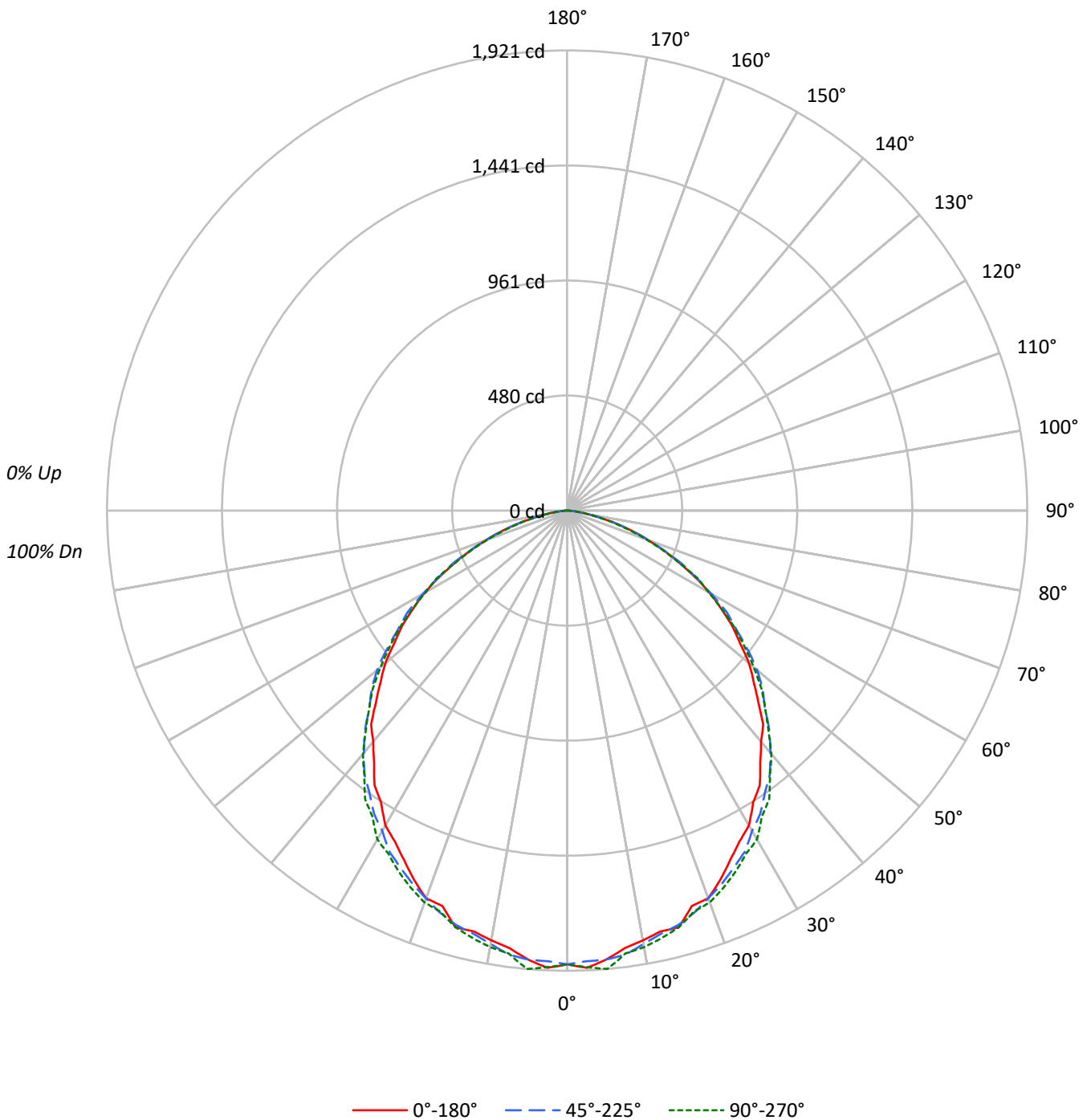
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5097	5097	5097
5°	5081	5082	5189
10°	4978	5021	5056
15°	5017	4990	5017
20°	4932	4932	4985
25°	4780	4885	4939
30°	4715	4798	4925
35°	4604	4724	4830
40°	4424	4638	4658
45°	4291	4443	4450
50°	4150	4337	4254
55°	3954	4031	4002
60°	3697	3734	3667
65°	3297	3381	3273
70°	2829	2838	2759
75°	2241	2235	2149
80°	1502	1460	1402
85°	815	809	756

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4558 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.2	3.7
10°-20°	505.0	10.6
20°-30°	756.6	15.8
30°-40°	896.7	18.8
40°-50°	898.3	18.8
50°-60°	762.5	16.0
60°-70°	514.1	10.8
70°-80°	225.9	4.7
80°-90°	36.7	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1439.7	30.2
0°-40°	2336.4	48.9
0°-60°	3997.3	83.7
0°-90°	4774.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4774.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1894	1894	1894	1894	1894	
5°	1881	1876	1882	1876	1921	177
15°	1801	1780	1791	1800	1801	502
25°	1610	1619	1645	1667	1663	744
35°	1401	1406	1438	1471	1470	870
45°	1128	1148	1168	1198	1169	872
55°	843	837	859	853	853	750
65°	518	511	531	511	514	515
75°	216	211	215	200	207	231
85°	26	26	26	25	24	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1894.2	1894.2	1894.2	1894.2	1894.2
2.5°	1910.6	1896.2	1882.7	1898.4	1907.9
5°	1880.8	1876.3	1881.5	1875.9	1921.1
7.5°	1842.1	1859.0	1868.8	1862.7	1865.3
10°	1821.6	1815.7	1837.5	1852.6	1850.4
12.5°	1799.6	1808.4	1809.6	1826.0	1827.4
15°	1800.8	1780.0	1791.0	1800.3	1801.0
17.5°	1730.8	1753.3	1760.9	1782.2	1755.8
20°	1722.3	1705.9	1722.3	1744.0	1740.6
22.5°	1669.7	1651.3	1686.6	1705.9	1704.7
25°	1610.0	1618.8	1645.2	1666.8	1663.3
27.5°	1557.7	1567.9	1605.6	1635.2	1616.1
30°	1517.3	1512.2	1544.0	1570.4	1585.1
32.5°	1445.2	1463.8	1500.9	1527.1	1513.2
35°	1401.4	1405.5	1438.1	1471.3	1470.4
37.5°	1324.8	1344.2	1389.9	1399.2	1390.6
40°	1259.5	1278.9	1320.2	1330.2	1326.1
42.5°	1211.4	1214.8	1250.2	1261.7	1243.4
45°	1127.5	1148.5	1167.6	1197.7	1169.3
47.5°	1056.1	1065.8	1106.9	1115.0	1100.1
50°	991.2	994.7	1036.0	1026.0	1016.2
52.5°	909.8	924.2	947.5	945.5	934.0
55°	842.8	837.2	859.2	853.3	853.1
57.5°	762.3	772.1	790.2	780.9	766.0
60°	687.0	687.2	693.8	683.3	681.4
62.5°	603.1	606.0	607.5	594.6	615.6
65°	517.8	510.9	531.0	510.7	514.1
67.5°	439.2	442.7	440.7	428.0	432.9
70°	359.5	363.9	360.7	346.3	350.7
72.5°	286.6	281.3	284.7	266.6	274.9
75°	215.5	211.1	215.0	199.8	206.7
77.5°	146.7	150.2	147.7	139.7	144.3
80°	96.9	94.2	94.2	89.5	90.5
82.5°	56.5	53.8	53.1	51.6	53.8
85°	26.4	25.7	26.2	25.4	24.5
87.5°	9.5	9.8	9.8	9.3	8.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)